Ted Stevens Anchorage International Airport

Residential Sound Insulation Community Workshop

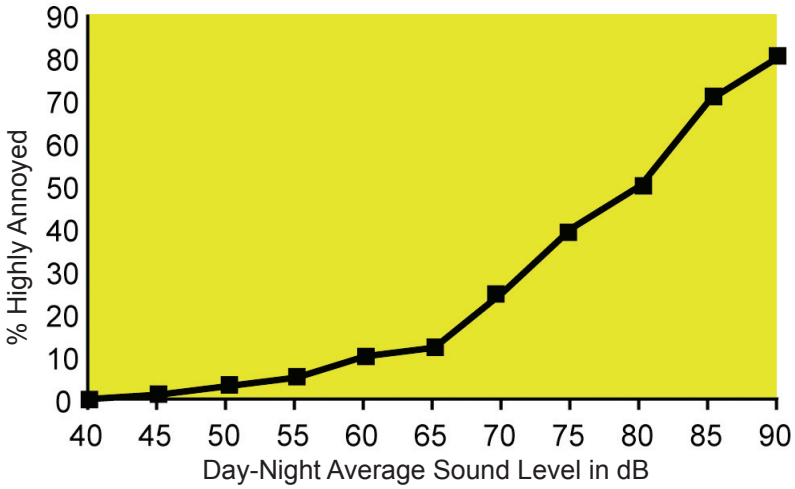
Why is DNL 65 dB the limit of eligibility?

One of the most frequent comments we receive from homeowners related to Ted Stevens Anchorage International Airport's residential sound insulation program is "Why am I not eligible for the program?" Eligibility for the Airport's program is based upon the Day-Night Average Sound Level (DNL) 65-decibel (dB) contour. So, who determined that threshold?

It all stems from analysis of social surveys by T.J. Schultz, Ph.D. Dr. Schultz reviewed the results of 161 social surveys that examined reactions of communities to varying levels of transportation noise (air, rail, auto, etc.). Schultz found a common thread among all modes of transportation in terms of what levels produced responses of "highly annoyed" from participants. Based on this information, Schultz developed an equation for describing the relationship between noise exposure levels (DNL) and percent of population highly annoyed, and published the results in 1978. This produced the Schultz Curve (shown below) . The Schultz curve shows that at DNL 65 dB, 12% of -the population is highly annoyed, and that the curve climbs fairly steeply immediately after this point. At levels below DNL 65 dB, the percentage Of highly annoyed falls off quickly.

This single graph has become the standard for the development of impact assessment for all forms of transportation noise, including aircraft. In 1992, the U.S. Air Force updated Schultz's research by reviewing 400 surveys, and found the same results.

Schultz Curve



While reactions to noise is a highly subjective issue, the FAA and airports have continued to utilize the DNL 65 dB threshold because it has proven to be the most reasonable and consistent methodology to maintain a national policy, and that DNL 65 dB was not chosen arbitrarily, but is based on research of human reaction to transportation noise.

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